Trent Meteor "In the Air" . . . . .

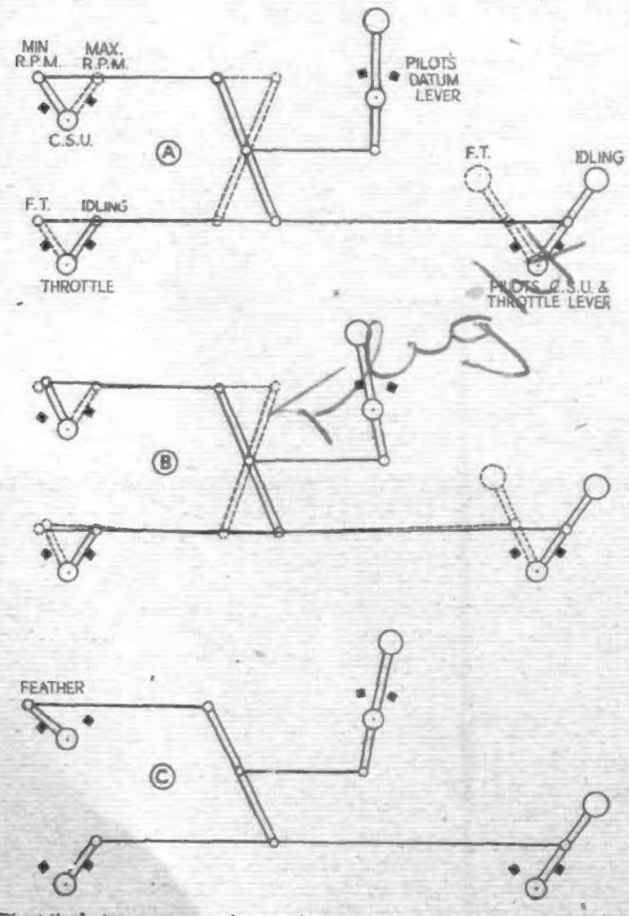
"Flight" photograph.

The Trents are responsive for taxying, and will provide immediate thrust for an overshoot.

Engine controls on the Meteor are standard, except for a pair of pitch levers situated beside the throttle slides. (Meteor "throttles" move fore and aft in slides instead of being mounted, as is more common, on quadrants.) An automatic controller has also been added which may be switched on at will, and which then takes over control of jet-pipe temperatures, much as an automatic control looks after boost on a piston engine.

The Rolls-Royce company has developed an economical operating technique whereby turbine temperature is kept high and r.p.m. low, in the same way that their piston engines run at high boost and low r.p.m. for economy. In this way exceptionally low fuel consumption figures for gas turbines may be achieved.

Most of the recent flying of the Trent-Meteor has taken place from Bitteswell airfield, near Rugby, to which I flew to sample this aircraft. After hearing a brief description of the engine controls and their use, and a word or two on the speeds and handling of the aircraft, I did up the harness and prepared to start. It is customary to take the port engine first, and to relieve the small electric starters of the inertia of the first few turns, the small-diameter six-blade airscrews are, therefore, pulled over by hand as the starter button is pressed. It takes only a few seconds from then onwards to reach light-up speed, and for the units to accelerate up to idling r.p.m.



The pilot's interconnected controls in diagrammatic form. A shows idling and full-throttle positions at sea level; B, the same at altitude; and C, the airscrew feathered and throttle closed.

The first difference to be noted with the airscrew-turbines was their usefulness when taxying. Brakes can be saved to a considerable extent by differential use of engines when turning, and the two Trents are responsive and apparently give plenty of thrust at comparatively low r.p.m. They also decelerate much more rapidly than a pure-jet unit.

It is always exciting to take off a jet aircraft, but I wondered if, in this instance, I should be too busy keeping straight to appreciate the acceleration as full power was applied. However, although the Trent airscrews are not "handed," there was no tendency to swing on opening up, and the thrust has to be experienced to be believed. As take-off r.p.m. build up, one is hurtled down the runway and off the ground. The push in the back is tremendous, and as soon as the machine is off, with the wheels up, it can safely be pulled up into an alarmingly steep climb.

After flying around at about 6,000 feet for a few minutes to get used to the aircraft, I decided to see what could be done with the engines. First I tried closing both throttles back and then opening up again to feel for myself the change of fore-and-aft trim (which is, however, found to a rather less extent on all Meteors) and to feel the response and acceleration. The acceleration on opening up at about 300 m.p.h. I.A.S. in level flight was greater than I would expect from pure jets. More surprising, however, was the quite low drag of the airscrews and slow aircraft deceleration on throttling right back. I had expected a marked braking effect from the six little blades on each side as they moved up to their fine-pitch stops at around 19 degrees, but, in fact, felt very little.

One Engine Out

Next I tried asymmetric flying, both windmilling and feathered, and again experienced little drag from the dead engine, and flew straight and level effortlessly without trimming-out rudder pressure or the small nose-down tendency. The Trent unfeathered, and from windmilling condition restarted, very like a piston engine.

While I thought about what I had tried out and what I wanted to do next, I did a few minutes' fast and slow flying. This machine, being old and experimental, is restricted against all aerobatics and very high speeds; however, it handles pleasantly and is enjoyable to fly. Apropos of nothing at all, I like the rudder reach adjustment on Meteors, and the clear, interference-free V.H.F. set on this particular one. The cockpit is, of course, well forward in the nose and ahead of the airscrews, but I could not hear any noise that could be definitely traced to the airscrews, nor was the machine appreciably noisier than a pure-jet machine. What did give a clue to the presence of something other than two Derwents was the slight vibration—a sort of tickle through the seat—which could be felt clearly at all r.p.m. This was similar to the sensation in a piston-engined machine; however, the absence of exhaust noise is much more important, and it